

**REMARKS**

This amendment is being submitted in response to the Office Action mailed June 26, 2002. Claims 1-4 remain pending, of which claims 1 and 4 have been amended.

**35 USC §112**

Claims 1-4 were rejected under 35 USC 112, second paragraph. Claim 1 has been amended to include language which better describes the structural relationship of the various components. More particularly, the claim has been amended to recite that the plurality of components are “in series within the housing”. Claim 4 has been amended to provide proper antecedent basis for the recitation of “the second member” in that it now depends from claim 3 instead of claim 1.

Briefly, Applicant’s invention resides in an improved, temperature-compensated piezoelectric force motor having positive and negative expanding elements that operate to hold the overall motor length constant over varying temperatures. The invention is based upon a stacked PZT transducer wherein a central structural member is stretched to increase its rigidity and robustness. The central stretching member removes the PZT element from the low path of the motor when the motor is relaxed, thereby preventing damage to the element during assembly and deployment. When the piezoelectric element is powered, the central structural member also improves the failure strength of the assembly to further increase the robustness of the motor design. Further, the invention provides an advantage that the capacitance of a feedback system within the device can be changed after the motor has been assembled. This allows the nominal capacitance to be optimized and standardized for the nominal control of capacitance, which in turn improves the manufacturability in that this is no longer a single point failure mechanism in the assembly.

**35 USC §102**

Claims 1 and 2 stand rejected under 35 USC 102(b) as being anticipated by Lawless et al., U.S. Pat. No. 5,222,713. Anticipation has always been held to require absolute identity and structure between the claimed structure and a structure disclosed in a single reference.

“For prior art to anticipate under §102 it has to meet every element of the claimed invention.” In *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986)

Claim 1 has been amended to include “a PZT element concentrically supported about a portion of the housing.” It is respectfully submitted that claim 1 as amended is no longer anticipated by Lawless et al. and is in proper condition for allowance.

Claim 2 depends on amended claim 1 and thus includes all of its limitations which are believed to be allowable. As such, Applicant respectfully requests that this be withdrawn as a basis for rejection.

**35 USC §103**

Claim 3 was rejected under 35 USC 103(a) as being unpatentable over Lawless et al. in view of Tsuruga JP 2-197180. In rejecting claims under 35 USC 103, the Examiner must provide a reason why one having ordinary skill in the pertinent art had been led to modify the prior art or combine the references to arrive at Applicant’s claimed invention. There must be something in the prior art that suggested the combination other than the hindsight gained from knowledge that the inventor chose to combine these particular things in this particular way. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

The present invention includes a plurality of components in series within the housing of the motor that exhibit both positive and negative coefficients of thermal expansion which cooperate to

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cancel one another so as to reduce the overall temperature expansion coefficient of the motor. There is nothing in the combination of Lawless et al. and Tsuruga that suggests the use of a series of non-piezoelectric components having different coefficients of thermal expansion to achieve a cancellation operative to maintain the overall length of the subject motor constant.

Further, the combination of Lawless et al. and Tsuruga would not result in the structure claimed as according to the invention. The piezoelectric element of the present invention is used to stretch a central structural member of the motor housing such that the overall rigidity and robustness of the motor design is improved. The present invention does not claim to rely on the coefficient of thermal expansion of the PZT. There must be something in the prior art that suggested the combination, other than hindsight gained from knowledge that the inventor chose to combine these particular things in this particular way. *Id.* 1438. From the foregoing amendment and remarks, Applicant respectfully requests that this be withdrawn as a basis for rejection.

Based upon the foregoing amendments and comments, Applicant believes all claims are in condition for allowance. Questions regarding this application can be directed to the undersigned attorney at the telephone/facsimile numbers provided.

Attached is a version showing the changes made to claims 1 and 4.

Respectfully submitted,

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